

THE CLAIMS

What is claimed is:

1. In an interactive voice response system having a telephone interface, a method of responding to a DTMF-input-sequence made by a caller on a telephone style keypad using a single keystroke per alphanumeric character, the method comprising:
 - receiving the DTMF-input-sequence over the telephone interface;
 - selecting from a plurality of alphanumeric string tokens, wherein each alphanumeric string token of the plurality has an associated weighting factor, a subset of alphanumeric string tokens in which each alphanumeric string token in the subset is mapped in accordance with the telephone style keypad to a numeric sequence equivalent to the DTMF-input-sequence;
 - sorting the subset according to the weighting factor to generate a sorted list of alphanumeric string tokens; and
 - for each alphanumeric string token in the sorted list, successively playing a corresponding audio message.
2. The method of claim 1, wherein the weighting factor is a probability.
3. The method of claim 2, wherein the probability is calculated from a historical access distribution.

4. The method of claim 3, wherein the DTMF-input-sequence is delimited by a selected terminal keystroke input.
5. The method of claim 4, wherein the playing pauses after a predetermined number of corresponding audio messages has been played.
6. The method of claim 5, wherein the alphanumeric string tokens are stock exchange ticker symbols.
7. The method of claim 5, wherein the alphanumeric string tokens are company names.
8. In a computer system that provides an audio user interface, a method of interfacing with a user comprising the steps of:
 - prompting the user for an input;
 - in response to receiving the input in the form of a DTMF-input-sequence delimited by a terminating character, selecting from a plurality of audio tokens, wherein each audio token of the plurality has a weighting factor and an alphanumeric identifier, a subset of audio tokens in which the alphanumeric identifier of each audio token of the subset corresponds to a DTMF sequence equivalent to the DTMF-input-sequence;
 - sorting the subset according to the weighting factor to generate a sorted list of audio tokens; and

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for each audio token in the sorted list, successively playing a corresponding audio message.

9. The method of claim 8, wherein the DTMF-input-sequence has a one-to-one correspondence with the alphanumeric identifier.
10. The method of claim 9, wherein the playing pauses after a selected number of audio messages has been played.
11. The method of claim 10, wherein the playing pauses after a further input is received from the user.
12. In a voice response system having a telephone interface and a recognition grammar for recognizing a set of spoken utterances in which each spoken utterance of the set has an associated alphanumeric string identifier, a method of interpreting input comprising:
 - receiving a DTMF key sequence over the telephone interface;
 - determining a constrained recognition grammar to recognize a subset of spoken utterances, wherein the subset comprises each spoken utterance of the set that has an associated alphanumeric string identifier that maps to a DTMF sequence that is equivalent to the DTMF key sequence;
 - playing a prompt over the telephone input to solicit a voice input;

in response to receiving the voice input over the telephone interface, processing the voice input against the constrained recognition grammar to determine a matching element of the subset; and playing an audio message corresponding to the matching element.

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